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TEST REPORT ON ATTERBERG LIMITS OF WET MIX MACADAM

SRCE No.	: SRCE-BBMP-282-2022-23
Date.	: 15.04.2023
Client Name	: **Executive Engineer**, Byatarayanapura Division, BBMP, Bangalore.
***Contractor Name**	: **Sri. M. Prakash.**, Contractor, Bangalore.
Project Name	: Improvements to Roads, Drains and Construction of Culverts at Amrutahalli and Surrounding in ward no.09
Letter Reference	: BBMP/EE/BTP/WO/178/2022-23 Dated: 18.03.2023
Source of Sample	: Sample Supplied by Contractor.
Technical Reference	: IS:2720 (part 5)-1985 RA 2015, MORTH Table 400-13
Material description	: Wet Mix Macadam
Date of Reciept of Sample	: 15.04.2023
Date of testing	: 15.04.2023

TEST RESULTS

Sl. No.	Particulars	Test Results	Standards as per Specifications As per MORTH Table 400-13
1	Liquid Limit	23.50	-
2	Plasticity Index, %	Non Plastic	6.0% Maximum.

* Data specified by Contractor

Remarks: The above tested sample satisfies MORTH Specifications as per Table 400-13

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Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TECHNICAL MANAGER

#08, 1st Cross, 2nd Main, Annapoorneshwari Layout, Near Maruthi School
8th Phase, J.P. Nagar, Bangalore - 560062, Karnataka.
srconsultantspvtltdblr@gmail.com | +91 9353659249

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TEST REPORT ON GRADATION OF WET MIX MACADAM

SRCE No.	: SRCE-BBMP-282-2022-23
Date.	: 15.04.2023
Client Name	: **Executive Engineer,** Byatarayanapura Division, BBMP, Bangalore.
***Contractor Name**	: **Sri. M. Prakash.,** Contractor, Bangalore.
Project Name	: Improvements to Roads, Drains and Construction of Culverts at Amrutahalli and Surrounding in ward no.09
Letter Reference	: BBMP/EE/BTP/WO/178/2022-23 Dated: 18.03.2023
Source of Sample	: Sample Supplied by Contractor.
Technical Reference	: IS 2720 (Part-4)- 1985 RA 2015, MORTH Table 400-13
Material description	: Wet Mix Macadam
Date of Reciept of Sample	: 15.04.2023
Date of testing	: 15.04.2023

TEST RESULTS

Total Wt. of Aggregates in gms 17125

Sieve Size in mm	Weight retained (gms)	Cumulative weight retained (gms)	Percentage Cumulative weight retained (%)	Percentage Passing (%)	Specified Limits as per MORTH Table 400-13
53	0	0	0	100	100
45	511	511	2.98	97.02	95-100
22.4	3516	4027	23.52	76.48	60-80
11.2	3145	7172	41.88	58.12	40-60
4.75	3611	10783	62.97	37.03	25-40
2.36	2845	13628	79.58	20.42	15-30
0.6	1522	15150	88.47	11.53	8-22
0.075	1647	16797	98.08	1.92	0-5

* Data specified by Contractor.

Remarks: The above tested sample satisfies MORTH Specifications as per Table 400-13

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Kodigehalli Sub Division
BBMP, Bangalore

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#08, 1st Cross, 2nd Main, Annapoorneshwari Layout, Near Maruthi School
8th Phase, J.P. Nagar, Bangalore - 560062, Karnataka.
srconsultantspvtltdblr@gmail.com | +91 9353659249

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TEST REPORT ON AGGREGATE IMPACT VALUE OF WET MIX MACADAM

SRCE No.	: SRCE-BBMP-282-2022-23
Date.	: 15.04.2023
Client Name	: **Executive Engineer,** Byatarayanapura Division, BBMP, Bangalore.
***Contractor Name**	: **Sri. M. Prakash.,** Contractor, Bangalore.
Project Name	: Improvements to Roads, Drains and Construction of Culverts at Amrutahalli and Surrounding in ward no.09
Letter Reference	: BBMP/EE/BTP/WO/178/2022-23 Dated: 18.03.2023
Source of Sample	: Sample Supplied by Contractor.
Technical Reference	: IS 2386 (Part-4)- 1963 RA 2016, MORTH Table 400-12
Material description	: Wet Mix Macadam
Date of Reciept of Sample	: 15.04.2023
Date of testing	: 15.04.2023

TEST RESULTS

Sl No.	Details	Trial No.			Average
		1	2	3	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	374	375	373	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	76	78	77	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	298	297	296	
4	Aggregate Impact value = percent fines	20.32	20.80	20.64	
	100* (W_2/W_1)%				**20.59**

* Data specified by Contractor.

Remarks: Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TECHNICAL MANAGER

#08, 1st Cross, 2nd Main, Annapoorneshwari Layout, Near Maruthi School
8th Phase, J.P. Nagar, Bangalore - 560062, Karnataka.
srconsultantspvtltdblr@gmail.com | +91 9353659249

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TEST REPORT ON FLAKINESS & ELONGATION OF WET MIX MACADAM

SRCE No.	: SRCE-BBMP-282-2022-23
Date.	: 15.04.2023
Client Name	: **Executive Engineer,** Byatarayanapura Division, BBMP, Bangalore.
***Contractor Name**	: **Sri. M. Prakash.,** Contractor, Bangalore.
Project Name	: Improvements to Roads, Drains and Construction of Culverts at Amrutahalli and Surrounding in ward no.09
Letter Reference	: BBMP/EE/BTP/WO/178/2022-23 Dated: 18.03.2023
Source of Sample	: Sample Supplied by Contractor.
Technical Reference	: IS:2386(part 1)-1963 RA 2016, MORTH Table 400-12
Material description	: Wet Mix Macadam
Date of Reciept of Sample	: 15.04.2023
Date of testing	: 15.04.2023

TEST RESULTS

Sl. No.	Particulars	Test Results	Standards as per Specifications As per MORTH Table 400-12
1	Flakiness Index	16.15%	Maximum allowable Flakiness & Elongation Index for Wet Mix macadam is 35%
2	Elongation Index	11.34%	
	Combined Flakiness & Elongation	**27.49%**	

* Data specified by Contractor.

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Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TECHNICAL MANAGER

#08, 1st Cross, 2nd Main, Annapoorneshwari Layout, Near Maruthi School
8th Phase, J.P. Nagar, Bangalore - 560062, Karnataka.
srconsultantspvtltdblr@gmail.com | +91 9353659249

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TEST REPORT ON BITUMEN CONTENT AND GRADATION FOR DENSE GRADED BITUMINOUS MACADAM

SRCE No. : SRCE-BBMP-282-2022-23
Date. : 16.04.2023

Client Name : **Executive Engineer,** Byatarayanapura Division, BBMP, Bangalore.
***Contractor Name** : **Sri. M. Prakash.,** Contractor, Bangalore.
Project Name : Improvements to Roads, Drains and Construction of Culverts at Amrutahalli and Surrounding in ward no.09
Letter Reference : BBMP/EE/BTP/WO/178/2022-23 Dated: 18.03.2023
Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 2720 (Part-4)- 1985 RA 2015, AASHTO T 164 & AASHTO T 30 & MORTH
Material description : Dense Graded Bituminous Macadam
Date of Reciept of Sample : 16.04.2023
Date of testing : 16.04.2023

TEST RESULTS

BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	476	477.5
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	24	22.50
7. Bitumen content in %	4.80	4.50
8. Average	4.65	

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TECHNICAL MANAGER

#08, 1st Cross, 2nd Main, Annapoorneshwari Layout, Near Maruthi School
8th Phase, J.P. Nagar, Bangalore - 560062, Karnataka.
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Total Wt. of Aggregates in gms 476

Sieve Size in mm	Weight retained (gms)	Cumulative weight retained (gms)	Percentage Cumulative weight retained (%)	Percentage Passing (%)	Specified Limits as per MORTH Table 500-10
37.5	0	0	0	100	100
26.5	33.2	33.2	6.97	93.03	90 - 100
19	63.1	96.3	20.23	79.77	71 - 95
13.2	15.6	111.9	23.51	76.49	56 - 80
4.75	129.3	241.2	50.67	49.33	38 - 54
2.36	51.6	292.8	61.51	38.49	28 - 42
0.3	104.6	397.4	83.49	16.51	7 - 21
0.075	52.6	450	94.54	5.46	2 - 8

Total Wt. of Aggregates in gms 477.5

Sieve Size in mm	Weight retained (gms)	Cumulative weight retained (gms)	Percentage Cumulative weight retained (%)	Percentage Passing (%)	Specified Limits as per MORTH Table 500-10
37.5	0	0	0	100	100
26.5	36.2	36.2	7.58	92.42	90 - 100
19	77.1	113.3	23.73	76.27	71 - 95
13.2	32.6	145.9	30.55	69.45	56 - 80
4.75	124.2	270.1	56.57	43.43	38 - 54
2.36	25.3	295.4	61.86	38.14	28 - 42
0.3	85.2	380.6	79.71	20.29	7 - 21
0.075	66.3	446.9	93.59	6.41	2 - 8

*Sample Supplied by Contractor.

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TECHNICAL MANAGER

#08, 1st Cross, 2nd Main, Annapoorneshwari Layout, Near Maruthi School
8th Phase, J.P. Nagar, Bangalore - 560062, Karnataka.
srconsultantspvtltdblr@gmail.com | +91 9353659249

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TEST REPORT ON GRADATION

SRCE No. : SRCE-BBMP-282-2022-23
Date. : 16.04.2023

Client Name : **Executive Engineer,** Byatarayanapura Division, BBMP, Bangalore.
***Contractor Name** : **Sri. M. Prakash.,** Contractor, Bangalore.
Project Name : Improvements to Roads, Drains and Construction of Culverts at Amrutahalli and Surrounding in ward no.09
Letter Reference : BBMP/EE/BTP/WO/178/2022-23 Dated: 18.03.2023
Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 2720 (Part-4)- 1985 RA 2015
Material description : Dense Graded Bituminous Macadam
Date of Reciept of Sample : 16.04.2023
Date of testing : 16.04.2023

TEST RESULTS

Total Wt. of Aggregates in gms 13124

Sieve Size in mm	Weight retained (gms)	Cumulative weight retained (gms)	Percentage Cumulative weight retained (%)	Percentage Passing (%)	Specified Limits as per MORTH Table 500-10
37.5	0	0	0	100	100
26.5	412	412	3.14	96.86	90 - 100
19	2051	2463	18.77	81.23	71 - 95
13.2	2514	4977	37.92	62.08	56 - 80
4.75	2312	7289	55.54	44.46	38 - 54
2.36	1624	8913	67.91	32.09	28 - 42
0.3	2241	11154	84.99	15.01	7 - 21
0.075	998	12152	92.59	7.41	2 - 8

* Sample Supplied by Contractor.

Remarks: The above tested sample satisfies MORTH Specifications as per Table 500-10, Grading II

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Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TECHNICAL MANAGER

#08, 1st Cross, 2nd Main, Annapoorneshwari Layout, Near Maruthi School
8th Phase, J.P. Nagar, Bangalore - 560062, Karnataka.
srconsultantspvtltdblr@gmail.com | +91 9353659249

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TEST REPORT ON AGGREGATE IMPACT VALUE

SRCE No.	: SRCE-BBMP-282-2022-23
Date.	: 15.04.2023
Client Name	: **Executive Engineer,** Byatarayanapura Division, BBMP, Bangalore.
***Contractor Name**	: **Sri. M. Prakash.,** Contractor, Bangalore.
Project Name	: Improvements to Roads, Drains and Construction of Culverts at Amrutahalli and Surrounding in ward no.09
Letter Reference	: BBMP/EE/BTP/WO/178/2022-23 Dated: 18.03.2023
Source of Sample	: Sample Supplied by Contractor.
Technical Reference	: IS 2720 (Part-4)- 1985 RA 2015
Material description	: Dense Graded Bituminous Macadam
Date of Reciept of Sample	: 15.04.2023
Date of testing	: 15.04.2023

TEST RESULTS

Sl No.	Details	Trial No.			Average
		1	2	3	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	389	394	383	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	89	89	81	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	300	305	302	
4	Aggregate Impact value = percent fines	22.88	22.59	21.15	
	100* (W_2/W_1)%				**22.21**

* Data specified by Contractor.

Remarks : Maximum allowable Aggregate Impact value for Dense Graded Bituminous Macadam is 27%

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Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TECHNICAL MANAGER

#08, 1st Cross, 2nd Main, Annapoorneshwari Layout, Near Maruthi School
8th Phase, J.P. Nagar, Bangalore - 560062, Karnataka.
srconsultantspvtltdblr@gmail.com | +91 9353659249

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TEST REPORT ON BITUMEN

SRCE No.	: SRCE-BBMP-282-2022-23
Date.	: 15.04.2023
Client Name	: **Executive Engineer,** Byatarayanapura Division, BBMP, Bangalore.
***Contractor Name**	: **Sri. M. Prakash.,** Contractor, Bangalore.
Project Name	: Improvements to Roads, Drains and Construction of Culverts at Amrutahalli and Surrounding in ward no.09
Letter Reference	: BBMP/EE/BTP/WO/178/2022-23 Dated: 18.03.2023
Source of Sample	: Sample Supplied by Contractor.
Technical Reference	: IS 2720 (Part-4)- 1985 RA 2015
Material description	: Dense Graded Bituminous Macadam
Date of Reciept of Sample	: 15.04.2023
Date of testing	: 15.04.2023

TEST RESULTS

The results of the tests conducted on the bitumen sample using for Dense Graded Bituminous Macadam

Sl.No	Description	Test Result	Requirement as per IS:73:2013
1	Penetration at 25 ^{0}C, 1/10 mm	48	Min 45
2	Softening point, ^{0}C	55	Min. 47
3	Ductility at 27^{0}C, cm	> 100	Min. 40
4	Flash Point, ^{0}C	275	Min. 220

* Data specified by Contractor.

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Kodigehalli Sub Division
BBMP, Bangalore

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#08, 1st Cross, 2nd Main, Annapoorneshwari Layout, Near Maruthi School
8th Phase, J.P. Nagar, Bangalore - 560062, Karnataka.
srconsultantspvtltdblr@gmail.com | +91 9353659249

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TEST REPORT ON FLAKINESS & ELONGATION

SRCE No.	: SRCE-BBMP-282-2022-23
Date.	: 15.04.2023
Client Name	: **Executive Engineer,** Byatarayanapura Division, BBMP, Bangalore.
***Contractor Name**	: **Sri. M. Prakash.,** Contractor, Bangalore.
Project Name	: Improvements to Roads, Drains and Construction of Culverts at Amrutahalli and Surrounding in ward no.09
Letter Reference	: BBMP/EE/BTP/WO/178/2022-23 Dated: 18.03.2023
Source of Sample	: Sample Supplied by Contractor.
Technical Reference	: IS:2386(part 1)-1963 RA 2016, MORTH Table 400-13
Material description	: Dense graded Bituminous Macadam
Date of Reciept of Sample	: 15.04.2023
Date of testing	: 15.04.2023

TEST RESULTS

Sl. No.	Particulars	Test Results	Standards as per Specifications As per MORTH Table 400-13
1	Flakiness Index	14.62%	Maximum allowable Flakiness & Elongat Dense graded Bituminous Macadam is 35%
2	Elongation Index	11.94%	
	Combined Flakiness & Elongation	**26.56%**	

* Sample Supplied by Contractor.

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Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TECHNICAL MANAGER

#08, 1st Cross, 2nd Main, Annapoorneshwari Layout, Near Maruthi School
8th Phase, J.P. Nagar, Bangalore - 560062, Karnataka.
srconsultantspvtltdblr@gmail.com | +91 9353659249

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TEST REPORT ON SPECIFIC GRAVITY AND WATER ABSORPTION

SRCE No. : SRCE-BBMP-282-2022-23
Date. : 15.04.2023

Client Name : **Executive Engineer,** Byatarayanapura Division, BBMP, Bangalore.
***Contractor Name** : **Sri. M. Prakash.,** Contractor, Bangalore.
Project Name : Improvements to Roads, Drains and Construction of Culverts at Amrutahalli and Surrounding in ward no.09
Letter Reference : BBMP/EE/BTP/WO/178/2022-23 Dated: 18.03.2023
Source of Sample : Sample Supplied by Contractor.
Technical Reference : IS 2386 (Part-4)- 1963 RA 2016, MORTH Table 500-10
Material description : Dense Graded Bituminous Macadam
Date of Reciept of Sample : 15.04.2023
Date of testing : 15.04.2023

TEST RESULTS

Total Wt. of Sample = 2000 gms

Sl. No.	Description	Notation	Test Result	
			Trail 1	Trail 2
1	Weight of Aggregate Suspended in water with the Basket (in gms)	A1	3725.4	3728.9
2	Weight of Empty Basket suspended in Water (in gms)	A2	2458.0	2468.0
3	Weight of Saturarted aggregate in water (in gms) = (A1-A2)	A	1265.4	1248.9
4	Weight of saturated surface dry aggregate in air (in gms)	B	2005.2	2001.8
5	Weight of oven dry Aggregate (in gms)	C	1997.5	1993.9

Result : 1. Specific gravity = (C/B-A) 2.70 2.65
2. Water Absorption in Percentage = (B-C*100/C) 0.39 0.40

* Data specified by Contractor.

Remarks: Maximum allowable Aggregate Water absorption value for Dense Graded Bituminous Macadam is 2.0%

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Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TECHNICAL MANAGER

#08, 1st Cross, 2nd Main, Annapoorneshwari Layout, Near Maruthi School
8th Phase, J.P. Nagar, Bangalore - 560062, Karnataka.
srconsultantspvtltdblr@gmail.com | +91 9353659249

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TEST REPORT ON STABILITY OF MIX

SRCE No.	: SRCE-BBMP-282-2022-23
Date.	: 16.04.2023
Client Name	: **Executive Engineer,** Byatarayanapura Division, BBMP, Bangalore.
***Contractor Name**	: **Sri. M. Prakash.,** Contractor, Bangalore.
Project Name	: Improvements to Roads, Drains and Construction of Culverts at Amrutahalli and Surrounding in ward no.09
Letter Reference	: BBMP/EE/BTP/WO/178/2022-23 Dated: 18.03.2023
Source of Sample	: Sample Supplied by Contractor.
Technical Reference	: IS 2720 (Part-4)- 1985 RA 2015
Material description	: Dense Graded Bituminous Macadam
Date of Reciept of Sample	: 16.04.2023
Date of testing	: 16.04.2023

TEST RESULTS

Sl.No	Description	Test Result		Requirement as per MORTH (Table 500-11)
		Trail 1	Trail 2	
1	Marshal Stability, Kn	10.12	10.48	9 Kn (min)
2	Marshal flow, mm	3.06	3.21	2 – 4
3	Percent air voids in Mix	3.9	4.2	3 – 5
4	Percent voids in mineral aggregates	10.21	10.72	10-12
5	Percent voids filled with Bitumen	70.16	70.92	65 – 75
6	Density, g/cc	2.24	2.27	-

* Data specified by Contractor.

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Kodigehalli Sub Division
BBMP, Bangalore

TECHNICAL MANAGER

#08, 1st Cross, 2nd Main, Annapoorneshwari Layout, Near Maruthi School
8th Phase, J.P. Nagar, Bangalore - 560062, Karnataka.
srconsultantspvtltdblr@gmail.com | +91 9353659249

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Geotechnical Investigation, Non Destructive Testing,
Soil Stabilization & Surveys.

TEST REPORT ON BITUMEN CONTENT AND GRADATION FOR BITUMINOUS CONCRETE

SRCE No.	: SRCE-BBMP-282-2022-23
Date.	: 17.04.2023
Client Name	: **Executive Engineer,** Byatarayanapura Division, BBMP, Bangalore.
***Contractor Name**	: **Sri. M. Prakash.,** Contractor, Bangalore.
Project Name	: Improvements to Roads, Drains and Construction of Culverts at Amrutahalli and Surrounding in ward no.09
Letter Reference	: BBMP/EE/BTP/WO/178/2022-23 Dated: 18.03.2023
Source of Sample	: Sample Supplied by contractor.
Technical Reference	: IS 2720 (Part-4)- 1985 RA 2015, AASHTO T 164 & AASHTO T 30 & MORTH
Material description	: Bituminous Concrete
Date of Reciept of Sample	: 17.04.2023
Date of testing	: 17.04.2023

TEST RESULTS

BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	473.5	472.9
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	26.50	27.10
7. Bitumen content in %	5.30	5.42
8. Average	**5.36**	

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TECHNICAL MANAGER

#08, 1st Cross, 2nd Main, Annapoorneshwari Layout, Near Maruthi School
8th Phase, J.P. Nagar, Bangalore - 560062, Karnataka.
srconsultantspvtltdblr@gmail.com | +91 9353659249

Total Wt. of Aggregates in gms 473.5

Sieve Size in mm	Weight retained (gms)	Cumulative weight retained (gms)	Percentage Cumulative weight retained (%)	Percentage Passing (%)	Specified Limits as per MORTH Table 500-17
19	0	0	0	100	100
13.2	24.8	24.8	5.24	96.00	90- 100
9.5	67.5	92.3	19.49	80.51	70 - 88
4.75	86.4	178.7	37.74	62.26	53 - 71
2.36	47.2	225.9	47.71	52.29	42 - 58
1.18	59.3	285.2	60.23	39.77	34 - 48
0.6	21.4	306.6	64.75	35.25	26 - 38
0.3	36.8	343.4	72.52	27.48	18 - 28
0.15	44.5	387.9	81.92	18.08	12 - 20
0.075	48.5	436.4	92.16	7.84	4 - 10

Total Wt. of Aggregates in gms 472.9

Sieve Size in mm	Weight retained (gms)	Cumulative weight retained (gms)	Percentage Cumulative weight retained (%)	Percentage Passing (%)	Specified Limits as per MORTH Table 500-17
19	0	0	0	100	100
13.2	37.4	37.4	7.91	92.09	90- 100
9.5	49.5	86.9	18.38	81.62	70 - 88
4.75	84.2	171.1	36.18	63.82	53 - 71
2.36	49.8	220.9	46.71	53.29	42 - 58
1.18	37.4	258.3	54.62	45.38	34 - 48
0.6	66.7	325	68.72	31.28	26 - 38
0.3	45.6	370.6	78.37	21.63	18 - 28
0.15	38.5	409.1	86.51	13.49	12 - 20
0.075	31.2	440.3	93.11	6.89	4 - 10

* Sample Supplied by contractor.

*** End of the Report ***

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TECHNICAL MANAGER

SR CONSULTANTS AND ENGINEERS

Building & Highway Material Testing,
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Soil Stabilization & Surveys.

TEST REPORT ON GRADATION

SRCE No. : SRCE-BBMP-282-2022-23
Date. : 17.04.2023

Client Name : **Executive Engineer,** Byatarayanapura Division, BBMP, Bangalore.
***Contractor Name** : **Sri. M. Prakash.,** Contractor, Bangalore.
Project Name : Improvements to Roads, Drains and Construction of Culverts at Amrutahalli and Surrounding in ward no.09
Letter Reference : BBMP/EE/BTP/WO/178/2022-23 Dated: 18.03.2023
Source of Sample : Sample supplied by contractor.
Technical Reference : IS 2720 (Part-4)- 1985 RA 2015, MORTH Table 500-17
Material description : Bituminous Concrete
Date of Reciept of Sample : 17.04.2023
Date of testing : 17.04.2023

TEST RESULTS

Total Wt. of Aggregates in gms 5100

Sieve Size in mm	Weight retained (gms)	Cumulative weight retained (gms)	Percentage Cumulative weight retained (%)	Percentage Passing (%)	Specified Limits as per MORTH Table 500-17
19	0	0	0	100	100
13.2	216	216	4.24	95.76	90- 100
9.5	706	922	18.08	81.92	70 - 88
4.75	846	1768	34.67	65.33	53 - 71
2.36	416	2184	42.82	57.18	42 - 58
1.18	526	2710	53.14	46.86	34 - 48
0.6	514	3224	63.22	36.78	26 - 38
0.3	457	3681	72.18	27.82	18 - 28
0.15	413	4094	80.27	19.73	12 - 20
0.075	519	4613	90.45	9.55	4 - 10

* Sample supplied by contractor.

*** End of the Report ***

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TECHNICAL MANAGER

#08, 1st Cross, 2nd Main, Annapoorneshwari Layout, Near Maruthi School
8th Phase, J.P. Nagar, Bangalore - 560062, Karnataka.
srconsultantspvtltdblr@gmail.com | +91 9353659249

SR CONSULTANTS AND ENGINEERS

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Geotechnical Investigation, Non Destructive Testing,
Soil Stabilization & Surveys.

TEST REPORT ON AGGREGATE IMPACT VALUE

SRCE No.	: SRCE-BBMP-282-2022-23
Date.	: 16.04.2023
Client Name	: **Executive Engineer,** Byatarayanapura Division, BBMP, Bangalore.
***Contractor Name**	: **Sri. M. Prakash.,** Contractor, Bangalore.
Project Name	: Improvements to Roads, Drains and Construction of Culverts at Amrutahalli and Surrounding in ward no.09
Letter Reference	: BBMP/EE/BTP/WO/178/2022-23 Dated: 18.03.2023
Source of Sample	: Sample Supplied by contractor.
Technical Reference	: IS 2386 (Part-4)- 1963 RA 2016, MORTH Table 500-17
Material description	: Bituminous Concrete
Date of Reciept of Sample	: 16.04.2023
Date of testing	: 16.04.2023

TEST RESULTS

Sl No.	Details	Trial No.			Average
		1	2	3	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	397	398	395	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	85	84	82	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	312	314	313	
4	Aggregate Impact value = percent fines	21.41	21.11	20.76	
	100* (W_2/W_1)%				**21.09**

* Sample Supplied by contractor.

***** End of the Report *****

Assistant Executive Engineer
Kodigehalli Sub Division
BBMP, Bangalore

TECHNICAL MANAGER

#08, 1st Cross, 2nd Main, Annapoorneshwari Layout, Near Maruthi School
8th Phase, J.P. Nagar, Bangalore - 560062, Karnataka.
srconsultantspvtltdblr@gmail.com | +91 9353659249

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TEST REPORT ON BITUMEN

SRCE No.	: SRCE-BBMP-282-2022-23
Date.	: 16.04.2023
Client Name	: **Executive Engineer,** Byatarayanapura Division, BBMP, Bangalore.
***Contractor Name**	: **Sri. M. Prakash.,** Contractor, Bangalore.
Project Name	: Improvements to Roads, Drains and Construction of Culverts at Amrutahalli and Surrounding in ward no.09
Letter Reference	: BBMP/EE/BTP/WO/178/2022-23 Dated: 18.03.2023
Source of Sample	: Sample supplied by contractor.
Technical Reference	: IS 73 -2013
Material description	: VG 30 Bitumen
Date of Reciept of Sample	: 16.04.2023
Date of testing	: 16.04.2023

TEST RESULTS

The results of the tests conducted on the bitumen sample using for Bituminous Concrete

Sl.No	Description	Test Result	Requirement as per IS:73:2013
1	Penetration at 25 ^{0}C, 1/10 mm	59	Min 45
2	Softening point, ^{0}C	63	Min. 47
3	Ductility at 27^{0}C, cm	> 100	Min. 40
4	Flash Point, ^{0}C	335	Min. 220

*Sample supplied by contractor.

*** End of the Report ***

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8th Phase, J.P. Nagar, Bangalore - 560062, Karnataka.
srconsultantspvtltdblr@gmail.com | +91 9353659249

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TEST REPORT ON FLAKINESS & ELONGATION

SRCE No.	: SRCE-BBMP-282-2022-23
Date.	: 16.04.2023
Client Name	: **Executive Engineer,** Byatarayanapura Division, BBMP, Bangalore.
***Contractor Name**	: **Sri. M. Prakash.,** Contractor, Bangalore.
Project Name	: Improvements to Roads, Drains and Construction of Culverts at Amrutahalli and Surrounding in ward no.09
Letter Reference	: BBMP/EE/BTP/WO/178/2022-23 Dated: 18.03.2023
Source of Sample	: Sample supplied by contractor.
Technical Reference	: IS:2386(part 1)-1963 RA 2016, MORTH Table 500-17
Material description	: Bituminous Concrete
Date of Reciept of Sample	: 16.04.2023
Date of testing	: 16.04.2023

TEST RESULTS

Sl. No.	Particulars	Test Results	Standards as per Specifications As per MORTH Table 500-17
1	Flakiness Index	16.72%	Maximum allowable Flakiness & Elongation Index for Bituminous Concrete is 30%
2	Elongation Index	11.12%	
	Combined Flakiness & Elongation	**27.84%**	

*Sample supplied by contractor.

*** End of the Report ***

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8th Phase, J.P. Nagar, Bangalore - 560062, Karnataka.
srconsultantspvtltdblr@gmail.com | +91 9353659249

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TEST REPORT ON SPECIFIC GRAVITY AND WATER ABSORPTION

SRCE No.	: SRCE-BBMP-282-2022-23
Date.	: 16.04.2023
Client Name	: **Executive Engineer,** Byatarayanapura Division, BBMP, Bangalore.
***Contractor Name**	: **Sri. M. Prakash.,** Contractor, Bangalore.
Project Name	: Improvements to Roads, Drains and Construction of Culverts at Amrutahalli and Surrounding in ward no.09
Letter Reference	: BBMP/EE/BTP/WO/178/2022-23 Dated: 18.03.2023
Source of Sample	: Sample supplied by contractor.
Technical Reference	: IS 2386 (Part-4)- 1963 RA 2016, MORTH Table 500-17
Material description	: Bituminous Concrete
Date of Reciept of Sample	: 16.04.2023
Date of testing	: 16.04.2023

TEST RESULTS

Total Wt. of Sample = 2000 gms

Sl. No.	Description	Notation	Test Result	
			Trail 1	Trail 2
1	Weight of Aggregate Suspended in water with the Basket (in gms)	A1	3722.0	3724.5
2	Weight of Empty Basket suspended in Water (in gms)	A2	2456.0	2465.0
3	Weight of Saturarted aggregate in water (in gms) = (A1-A2)	A	1266.0	1259.5
4	Weight of saturated surface dry aggregate in air (in gms)	B	2008.2	2010.5
5	Weight of oven dry Aggregate (in gms)	C	1997.8	1997.6

Result :	1. Specific gravity = (C/B-A)	2.69	2.66
	2. Water Absorption in Percentage = (B-C*100/C)	0.52	0.65

* Sample supplied by contractor.

*** End of the Report ***

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Kodigehalli Sub Division
BBMP, Bangalore

TECHNICAL MANAGER

#08, 1st Cross, 2nd Main, Annapoorneshwari Layout, Near Maruthi School
8th Phase, J.P. Nagar, Bangalore - 560062, Karnataka.
srconsultantspvtltdblr@gmail.com | +91 9353659249

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Geotechnical Investigation, Non Destructive Testing,
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TEST REPORT ON STABILITY OF MIX

SRCE No.	: SRCE-BBMP-282-2022-23
Date.	: 17.04.2023
Client Name	: **Executive Engineer,** Byatarayanapura Division, BBMP, Bangalore.
***Contractor Name**	: **Sri. M. Prakash.,** Contractor, Bangalore.
Project Name	: Improvements to Roads, Drains and Construction of Culverts at Amrutahalli and Surrounding in ward no.09
Letter Reference	: BBMP/EE/BTP/WO/178/2022-23 Dated: 18.03.2023
Source of Sample	: Sample Supplied by contractor.
Technical Reference	: MORTH Table 500-17
Material description	: Bituminous Concrete
Date of Reciept of Sample	: 17.04.2023
Date of testing	: 17.04.2023

TEST RESULTS

Sl.No	Description	Test Result		Requirement as per MORTH (Table 500-17)
		Trail 1	Trail 2	
1	Marshal Stability, Kn	9.88	9.91	9 Kn (min)
2	Marshal flow, mm	3.27	3.34	2 – 4
3	Percent air voids in Mix	12.38	12.86	11 – 13
4	Percent voids in mineral aggregates	4.34	4.43	3 – 5
5	Percent voids filled with Bitumen	70.5	70.90	65 - 75
6	Density, g/cc	2.26	2.28	-

* Sample Supplied by contractor.

***** End of the Report *****

Assistant Executive Engineer
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srconsultantspvtltdblr@gmail.com | +91 9353659249